

REMARKS

Favorable reconsideration of this application, in light of the following discussion, is respectfully requested.

Claims 1-12 are currently pending, with Claims 9-11 withdrawn as directed to a non-elected invention. No claims have been amended herewith.

In the outstanding Office Action, Claims 1-5 and 12 were rejected under 35 U.S.C. § 102(b) as being anticipated by Hsu et al. ("A Parallel Decoding Scheme for Turbo Codes") (hereinafter "the Hsu et al. reference"); Claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the Hsu et al. reference in view of U.S. Patent No. 5,907,582 to Yi (hereinafter "the '582 patent"); and Claims 7 and 8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Hsu et al. reference in view of U.S. Patent No. 6,044,116 to Wang (hereinafter "the '116 patent").

Applicants wish to thank the Examiner for the interview granted Applicants' representative on September 14, 2004, at which time the outstanding rejections of the claims were discussed. However, no agreement was reached pending the Examiner's further consideration of the claims upon formal submission of a response to the outstanding Office Action.

Claim 1 is directed to a decoding unit for decoding a turbo-code sequence, the decoding unit comprising: a plurality of decoders for dividing a received code sequence into a plurality of blocks along a time axis, and for decoding at least two of the blocks in parallel, each decoder including a deinterleaver, an interleaver, and a decoding part. As a non-limiting example, see Figure 3, which illustrates a plurality of decoders for bit by bit separate execution.

The Hsu et al. reference is directed to a parallel decoding scheme for turbo codes and corresponds to the conventional prior art decoding scheme shown in Figure 15 of the present

application.² As shown in Figure 2, turbo code decoding generally consists of two soft input/soft output (SISO) component decoders, an interleaver, and a deinterleaver. As shown in Figure 5, the Hsu et al. reference discloses that the first SISO component decoder may be implemented in parallel using W sub-block decoders working in parallel. Further, the Hsu et al. reference discloses that the data selector 2 shown in Figure 5 reassembles the L_{el} sequence which is then input into the interleaver shown in Figure 2. However, Applicants respectfully submit that the Hsu et al. reference fails to disclose a decoding unit for decoding a turbo-code sequence comprising a plurality of decoders for dividing a received code sequence into a plurality of blocks along a time axis, and for decoding at least two of the blocks in parallel, each decoder including a deinterleaver, an interleaver, and a decoding part, as recited in Claim 1. In particular, Applicants note that the Hsu et al. reference discloses a single interleaver and a single deinterleaver. Moreover, the sub-block segmentation disclosed by the Hsu et al. reference is performed prior to coding in a conventional turbo-coding system. In contrast, the claimed function of dividing a received code sequence into a plurality of blocks along a time axis is performed after coding. Accordingly, Applicants respectfully traverse the rejection of Claim 1 (and dependent Claims 2-5) as anticipated by the Hsu et al. reference.

Claim 12 recites limitations analogous to the limitations recited in Claim 1. Accordingly, for the reasons stated above for the patentability of Claim 1, Applicants respectfully traverse the rejection of Claim 12 as anticipated by the Hsu et al. reference.

Regarding the rejection of dependent Claims 6-8 under 35 U.S.C. § 103(a), Applicants respectfully submit that the '116 and '582 patents fail to remedy the deficiencies of the Hsu et al. reference, as discussed above. Accordingly, Applicants respectfully submit

² The plurality of decoders disclosed by the Hsu et al. reference correspond to the decoding parts 201A and 201B shown in Figure 15.

that a *prima facie* case of obviousness has not been established and the rejection of Claims 6-8 should be withdrawn.

Thus, it is respectfully submitted that independent Claims 1 and 12 (and all associated dependent claims) patentably define over any proper combination of the Hsu et al. reference, the '116 patent, and the '582 patent.

Consequently, in view of the present amendment and in light of the above discussion, the outstanding grounds for rejection are believed to have been overcome and the present application as submitted herewith is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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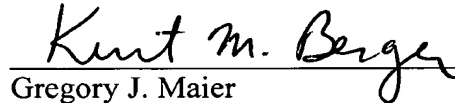
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